DOCUMENT RESUME

ED 069 146 24 EM 010 448

AUTHOR Popham, W. James
TITLE The Development of a Pilot Library of Cassette Tapes Dealing with Recent Advances in the Strategies and Features of Educational Research. Final Report. Including a Report of an External Project Evaluation Conducted by Jerry L. Brown, Indiana University.
INSTITUTION American Educational Research Association, Washington, D.C.
SPONS AGENCY National Center for Educational Research and Development (DHEW/OE), Washington, D.C.
BUREAU NO BR-0-0729
PUB DATE Dec 71
GRANT OEG-0-70-5796(520)
NOTE 52p.

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS Behavioral Objectives; Educational Research; *Educational Researchers; Instructional Media; Instructional Technology; *Magnetic Tape Cassettes; *Phonotape Recordings; *Research Methodology; *Research Skills; Sampling; Statistical Analysis; Statistical Bias; Surveys

ABSTRACT

A project was designed to develop and test a library of cassette audiotapes for improving the technical skills of educational researchers. Fourteen outstanding researchers from diverse fields were identified, and a short instructional tape was prepared by each. Subjects of the tapes included instructional objectives for intellectual skills, sources of bias in surveys, implications for the next 20 years of change, some precepts for conducting educational research, statistical interactions, evaluation skills, learning and instructional psychology, multiple regression analysis, control of student activity in learning, limitations of variables taken from common language, instant feedback displays of teaching behavior, research implications for reforms in educational finance, recent trends in the analysis of multidimensional contingency tables and nonparametric rank analysis of variance, and problems of conducting research with educable mentally retarded children. A separate evaluation of how useful the tapes were to purchasers showed that those who listened to the tapes felt they increased their understanding of the topic discussed. (SH)

ED 069146

PA 24
BR-0-0729
EM

FINAL REPORT

PROJECT NO. 00729
GRANT NO. OEG-0-70-4796 (520)

W. James Popham
American Educational Research Association
1126 16th Street, N.W.
Washington, D.C. 20036

THE DEVELOPMENT OF A PILOT LIBRARY OF CASSETTE TAPES DEALING WITH RECENT ADVANCES IN THE STRATEGIES AND FEATURES OF EDUCATIONAL RESEARCH

INCLUDING A REPORT OF AN EXTERNAL PROJECT EVALUATION CONDUCTED BY JERRY L. BROWN, INDIANA UNIVERSITY

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

December, 1971

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Office of Education
National Center for Educational Research and Development

EM 010 448

FILMED FROM BEST AVAILABLE COPY

ED 069146

FINAL REPORT

Project No. 00729
Grant No. OEG-0-70-5796 (520)

THE DEVELOPMENT OF A PILOT LIBRARY OF CASSETTE TAPES DEALING WITH RECENT ADVANCES IN THE STRATEGIES AND FEATURES OF EDUCATIONAL RESEARCH

INCLUDING A REPORT OF AN EXTERNAL PROJECT EVALUATION CONDUCTED BY JERRY L. BROWN, INDIANA UNIVERSITY

W. James Popham
American Educational Research Association
1126 16th Street, N.W.
Washington, D.C. 20036

December, 1971

The research reported herein was performed pursuant to a grant with the Office of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
National Center for Educational Research and Development

AUTHOR'S ABSTRACT

This project was designed to produce a series of half hour cassette audiotapes to be used as instructional materials to improve the skills of educational researchers. In addition to developing the cassette tapes, the project was to assess, at least initially, the degree to which such tapes could serve as an effective vehicle for the continuing education of such research personnel. To accomplish this the cassette tapes developed during the project were turned over to the American Educational Research Association (AERA) in order that they could be distributed commercially by AERA, thereby testing the economic feasibility of developing and distributing such tapes.

In all, 14 separate tapes were prepared by some of the nation's leading educational researchers, thereby totally more than seven hours of instruction. The first 10 of these were distributed by AERA during 1971, with more than 1,400 tapes being sold in less than eight months. It is apparent from these sales figures that educational researchers will, indeed, purchase such tapes in sufficient quantities to make them economically feasible to produce.

An external evaluation of the purchaser's satisfaction with the first ten tapes was conducted independently by Professor Jerry L. Brown of Indiana University. In general, Professor Brown concluded that the tapes were judged useful by their purchasers and that most purchasers reported a willingness to acquire more tapes. A number of procedural questions regarding usage of the tapes were explored as a consequence of responses to a questionnaire distributed to tape purchasers.

TABLE OF CONTENTS

	PAGE
Introduction	1
DEVELOPMENT PROCEDURES	3
Conclusion	14
EVALUATOR'S REPORT	16
Appendix	39

INTRODUCTION

In the present period of increasing specialization and rapidly expanding technical knowledge, it is not surprising that professionals in all fields have taken a serious look at the vehicles whereby their technical skills can be rennovated. "Continuing education" for specialists of all kinds, e.g., physicans, psychologists, and engineers, is a common theme in professional circles today. The project described in this report was initiated as a consequence of the concern of educational researchers regarding appropriate methods for bringing recent technical advances to the attention of members of their profession. More specifically, the project tested the viability of using a library of cassette audiotapes, distributed by a national research organization, as a vehicle for improving the technical skills of educational researchers.

The project emerged from the deliberations of a task force of the American Educational Research Association (AERA) commissioned to examine the training of educational researchers. The task force, appointed during 1969 under the chairmanship of Robert Gagné, had explored a variety of schemes for upgrading the professional knowledge and skills of educational researchers. In appraising alternative methods of providing such continuing education, the AERA task force examined one technique which has recently been employed by comparable professional groups, namely, the use of cassette instructional tapes. As a consequence, a proposal was submitted to the Research Training Branch of the U.S. Office of Education to support the development of a pilot library of cassette tapes which dealt with recent advances in the strategies and procedures of educational research.

In brief, the rationale for the proposal was that if high quality instructional tapes could be assembled for distribution among the educational research community, members of that group would utilize these tapes to upgrade their own competencies. The arguments for the use of cassette tapes for this type of continuing education are several. First, they are relatively short, self-contained instructional modules and can be used, therefore, in a variety of circumstances. For example, the possibility of using cassette tapes during otherwise "dead" times such as driving to and from work would seem to be a compelling argument for such tapes. In addition, the possibility of using cassette tapes as a change of pace during working hours or after work also presents itself. In other words, there seemed to be numerous a priori agruments in favor of cassette audiotapes as a technique for providing educational researchers with continuing education. What was needed was an empirical test of the merits of this approach.

The particular scheme proposed in the project was to identify outstanding educational researchers and have each of them prepare a short instructional tape which would constitute an initial tape library. These tapes were to be distributed by the American

Educational Research Association at a price competitive with those typically used by commercial agencies distributing such tapes. If the tapes were then purchased in sufficient quantities to make the continued development of such tapes economically self-supporting, organizations such as AERA could undertake their own tape-development efforts without federal support.

The particular strategy involved in this project took advantage of the fact that many people in a field wish not only to learn of recent advances in that field but, perhaps, might derive some special dividends from listening to the stature figures of their field dispense these remarks. In other words, it seems that if some individuals have an opportunity to read a paper by Robert Gagné or to hear remarks recorded by Gagné himself, some who would eschew the written document might find the recorded presentation sufficiently attractive to warrant its use.

A recently reported survey* of the interest of American psychologists seems particularly relevant to the present investigation. In an effort to identify the interests of psychologists in using audiotapes a ten per cent random sample of the American Psychological Association's (APA) Division 12 (Clinical Psychology) and a five per cent sample of the general APA membership (excluding Division 12 members) was administered a mailed questionnaire regarding the use of audiotapes and other audiovisual media. A return rate of 42 per cent from the general APA sample (n = 725) and a 49 per cent from the Division 12 sample (n = 255) was obtained. An extremely positive response regarding the potential utility of audiotapes was secured from both samples as reflected in the following findings:

> Eighty percent of the respondents from each of two samples of psychologists -- a random sample of the general APA membership and a sample from Division 12 (Division of Clinical Psychology) -- said that they would use audiotapes if these were available in an area of their interest. A little under 80% of the respondents indicated that audiotapes have advantages over such traditional media as books and journals. The advantages most frequently mentioned were that tapes can be used more effectively in classrooms and other groups, they provide a sense of the person or persons communicating as opposed to the disembodied hand of the author, are convenient to use (in a variety of environments, according to one's own personal schedule), and present certain types of information (e.g., dialogues and thera-

*Prescott, Suzanne, Psychologist's Interest in Audiotapes and Other Audiovisual Media: Survey Results, National Information System for Psychology/American Psychological Association, Washington, D.C., October, 1970.

peutic sessions) more effectively. An extrapolation of the survey results to the entire APA membership indicates that approximately 10,000 members would use them if audiotapes were easily available. Of course, many of the respondents (between 50% and 60%) reported that they have already had experience with audiotapes.

Respondents in the study also indicated a tangible interest in an audiotape cassette program. When asked if they would be willing to purchase tapes at prices ranging from $5.00 to $15.00 for half hour or one hour cassette tapes, over 55 per cent of both sample's respondents reported that they would buy tapes at these prices. Thus, it appears quite clear from the APA survey that psychologists appear highly positive toward the potential utility of audiotapes as a vehicle for their continuing education.

Turning to the present investigation, the funds requested from the U.S. Office of Education were $14,800, with $1,000 designated for the external evaluation report. Because the attempt was to secure ten half-hour cassette tapes for this price, the project can be designated as a low cost development effort. In other words, in contrast to heavily financed efforts to develop instructional materials through the use of empirically-based, trial-revision sequences, this project was clearly at the other end of the cost continum. It was, candidly, an effort to secure the services of several of America's most able educational researchers in connection with an instructional mission, namely, an effort to upgrade skills of their fellow researchers.

Perhaps the most realistic way of describing the project will be to trace chronologically the key activities associated with the enterprise during its 18 months duration. Accordingly, the next section of the report will document these activities in a temporal sequence. At the conclusion of the description of the project, a separate external evaluation report by Professor Jerry Brown of Indiana University will be presented. Following that evaluation report, appendices will conclude the final report.

DEVELOPMENT PROCEDURES

June, 1970. The project was officially approved in June, 1970 and, as with most such projects, the serious thinking really got under way regarding how to carry out the enterprise after official approval. The project was, in essence, to be conducted from the West Coast because of the project director's affiliation with the University of California, Los Angeles. At the same time it was to be fiscally managed from Washington, D.C. through the central office of the American Educational Research Association. Accordingly, preliminary communications regarding the needed arrangements between the project director and the AERA central office were

worked out, largely by mail, during June. A rough sequence of events schedule was planned during June and preliminary conversations were undertaken with technical service agencies which might be involved in the recording and distribution of the cassette training tapes.

July, 1970. As indicated above, the AERA Task Force for the Training of Educational Researchers had been involved in the exploratory discussions which led to the submission of the proposed project to USOE. During those deliberations, members of the group had indicated a willingness to make suggestions regarding potential contributors to the initial series of tapes. Accordingly, on July 10, 1970, a memorandum was issued by the project director to members of the AERA Task Force soliciting their suggestions regarding contributors to the cassette tape library project. Although it was indicated that the task force would, at a later point, be given an opportunity to vote on the most appropriate contributors, this mid-July effort was simply designed to secure nominees. Members of the task force at that time were the following: Abbott L. Ferriss, Robert M. Gagné, William J. Gephart, Gary E. Hanna, John E. Hopkins, Reginald L. Jones, Jason Millman, Harold E. Mitzel, Ellis Page, Sam D. Sieber, and Blaine R. Worthen. Responses from the Task Force members were returned to the project director as early as late July.

Also during the summer the project director consulted with a number of colleagues regarding names to include in the initial list of potential contributors. Officials of AERA were contacted. Colleagues from different universities were consulted. An effort was made to secure a balanced representation for the list of potential contributors. To illustrate, there is a general tendency among educational researchers when considering continuing education to think most quickly of those colleagues involved in methodolgoical specialties, e.g., statistics or research design. We were hoping to secure a wider array of educational researchers, hence deliberately sought the counsel of people who were in such fields as economics of education, sociology of education, etc.

August, 1970. A letter was directed to the Divisional Vice-Presidents of AERA. These are individuals who have particular specialties in different fields and, consistent with our effort to secure a wide array of possible participants, it was believed that such individuals could offer additional names to be added to the list. A self-addressed post card was included for all Divisions (at that time there were seven AERA Divisions) and all but one of the Divisional Vice-Presidents responded with names and possible topics for the cassette library.

September, 1970. With the returns of all but two members of the AERA Task Force, all but one of the AERA Divisional Vice-Presidents, and many colleagues, a list of fifty educational researchers along with their fields of specialization was prepared. This list was transmitted to members of the AERA Task

Force on September 3rd with a request that each of the task force members check ten of the names they thought most suitable for the first effort to assemble a library of cassette training tapes. All but one of the Task Force members returned their lists after a single follow-up mailing. By early October these "ballots" were counted and the fifteen most frequently checked individuals were designated as those who would be contacted for possible participation in the project. It was anticipated that for a certain number of these individuals there would be conflicts which would prevent their participation. As a consequence, although only ten tapes were to be prepared during the first round of presentations, it was thought that fifteen invitations would give us a reasonable number of alternatives.

At the same time, with the prospect of moving more rapidly toward the actual recording dates, a Los Angeles organization, American Tape Duplicators (ATD), was contacted to discuss the technical requisites of the recording session. It had been originally anticipated that two conferences would be held in Los Angeles in early Spring, one of which would serve as a vehicle for feedback regarding each participant's presentation, the second of which would be used for final recordings of comparable quality. American Tape Duplicator is an extremely large organization with considerable national distribution, hence we were confident that their advice would be sound. We were advised by their technical recording specialists that under no circumstances was it necessary to have a final recording session in Los Angeles. The ATD technical personnel informed us that the common practice in such projects was to have individuals prepare final recordings at their home base and that, by the use of reasonably inexpensive cassette recorders with automatic volume control, recordings of thoroughly satisfactory quality could be secured. ATD officials strongly advised us to dispense with the final recording session in Los Angeles, since they indicated this would create an unnecessary expense.

In view of the ATD staff's recommendations, it seemed that we could save the money used for the second recording session and, perhaps, schedule a second round of recordings at a later date. As a consequence, it was concluded that only one meeting in Los Angeles would be held in the Spring of 1971.

November, 1970. Several weeks thereafter, a letter was transmitted to the fifteen individuals on our list. The letter, a copy of which is included in the appendix, described the nature of the training project, stressed the manner in which individuals were selected, and urged the participation of each candidate. A $500 honorarium plus all expenses for the participation was described.

December, 1970. Responses from letters of invitation were returned sporadically during December. Of the fifteen letters of invitation, ten positive respones were secured. In all, the following individuals agreed to participate in the cassette tape project: Dr. Robert Gagné, Florida State University; Dr. Donald

L. Meyer, Syracuse University; Dr. John R. Platt, University of Michigan; Dr. A.A. Lumsdaine, University of Washington; Dr. Jason Millman, Cornell University; Dr. Michael Scriven, University of California, Berkeley; Dr. Robert Glaser, University of Pittsburgh; Dr. Fred N. Kerlinger, New York University; Dr. Ernst Rothkopf, Bell Telephone Laboratory; and Dr. Robert M.W. Travers, Western Michigan University.

January, 1971. During January details were worked out for an anticipated March meeting in Los Angeles and schedules of the ten participants were tested in order to locate a two or three day meeting span when all individuals could attend. After several rounds of letters and postcards, March 5, 6, and 7 appeared to be a three day period when all of the participants could attend the meeting in Los Angeles.

After checking with several hotels near the International Airport, one was selected which offered both reasonable room rates and a meeting room set-up necessary for the particular recording plan we were attempting to implement.

Also during January two letters were sent to the participants reminding them that in working out their presentation design they should definitely cleave to an instructional effort rather than simply presenting "their view of the world." These tapes were supposed to improve the competencies of those listening to them and not provide a platform for rambling discursions on the part of the presenter. This point was thus emphasized on two written occasions during January as well as stated in the initial invitation letter.

February, 1971. In February invitations to attend the March 5-7 session were administered to almost 200 Southern California educational researchers. In general, these invitations were issued via duplicated notices, and in some instances personal notes were attached. There was some concern on the part of the director that too many individuals would attend the early March recording sessions. As originally planned in the proposal submitted to the U.S. Office of Education, the March meeting was set as a time for feedback from individuals who had listened to the ten participants' half hour presentations. The presenter was then to interact with the audience and, on the basis of audience suggestions, prepare a revised version which would be the final tape included in the cassette series. As a consequence, we needed a reasonably representative audience for our March session. February was spent in trying to locate such an audience.

March, 1971. The initial feedback session was scheduled, as indicated, on March 5-7, at the Los Angeles International Hotel. The following schedule was developed for the meeting.

AERA CASSETTE TAPE LIBRARY PROJECT

March 5, 6, and 7

Date	Time	Presenters	Title
March 5	8:30	Dr. Robert Gagné Florida State University	Defining Objectives for Six Varieties of Learning
	10:30	Dr. Donald L. Meyer Syracuse University	Non-sampling Errors in Surveys and Experiments
	Lunch		
	1:30	Dr. John R. Platt University of Michigan	The Next Twenty Years of Change
March 6	8:30	Dr. A.A. Lumsdaine University of Washington	Some Precepts for Conduct
	10:30	Dr. Jason Millman Cornell University	Statistical Interactions Their Nature and Importance
	Lunch		
	1:30	Dr. Michael Scriven University of California	Evaluation Skills
March 7	8:30	Dr. Robert Glaser University of Pittsburgh	The Psychology of Learning and Instructional Psychology
	10:30	Dr. Fred N. Kerlinger New York University	Multiple Regression Analysis and Educational Research
	Lunch		
	1:30	Dr. Ernst Rothkopf Bell Telephone Lab.	Control of Student Activity in Learning
	3:30	Dr. Robert M.W. Travers	The Limitations of Variables Derived from Common Language

The general plan for the meeting was as follows: A presenter was taken to a separate room where he delivered his presentation with only an audio technician present. His remarks were transmitted to a second room where an audience listened to the presentation. A recording was made of this initial presentation, both for the presenter's purposes in revising his tape as well as for safety purposes (if the presenter failed to deliver on his promised revision of the tape, it was always possible that we could use the original).

The use of separate rooms was considered imperative to create a condition whereby the speaker would have to rely solely on an audio communication medium and would not be able to employ the typical facial expressions or gestures which accompany an in-person presentation. We were anxious to have our speakers try to reach an unseen audience, for this is precisely what they would have to do on the final version of the cassette tape they were to subsequently record.

One hour was scheduled for the post-presentation interaction of a participant with the audience. These discussions were to be scheduled around two central foci, first, a consideration of the presentation techniques employed by the speaker and, second, a consideration of the substance of the topic of the presentation. We hoped that from both types of considerations perceptions regarding desirable changes might emerge. A stenographer was to take notes of the one hour interaction session and summarize these for use by the presenter.*

The March meeting, other than the problems with the stenographic feedback system, went off without a hitch. The presenters arrived on schedule and many participated in reacting to other presenter's presentations. These discussions were lively and extremely stimulating. One disappointment experienced by the director was the fact that very few of the two hundred people invited attended the meeting. In some cases there was an embarrassingly small turnout for a given session, e.g., 8-10 people. One can always debate whether a small group of people reacting to a presentation yield as useful information as a large group. Certainly, there were some suggestions garnered from the sessions. But there were surely fewer people in the audience than had been anticipated.

---

*It should be pointed out that this planned feature of the March session proved to be a failure. In spite of repeated reassurance from the local stenographic firm (located only after considerable difficulty), the night before the meeting was scheduled to take place the firm called and indicated there would be no stenographer present. We were fortunate in persuading a female colleague in the UCLA Department of Education who had stenographic experience, to pinch hit in the situation, but the press of her other responsibilities delayed the immediacy of the feedback to the participants. We had hoped to have transcribed notes in the hands of the participants before they left Los Angeles or at the very latest, one or two days after their return to their home base. As it worked out, however, in some cases the participants did not receive these summarized suggestions until almost two weeks after the presentation.

April and May, 1971. The participants then returned to their home bases where a cassette recorder plus blank cartridge had been sent to them along with instructions as to how the final recording was to be prepared. Most of the presenters returned their final tape within the suggested two or three weeks, but in a few cases it took letters, phone calls, telegrams, and threats of guerrilla warfare to get the final version of the tape. The last tape finally was delivered in late May.

Publicity information was released by the American Educational Research Association indicating that the tapes would be available for April distribution. In reality they were initially distributed in May. The price set for the individual tape was $8.00 apiece for non-AERA members, $7.00 apiece for AERA members, with a discount if the entire series of ten were purchased, i.e., $70.00 for non-members and $60.00 for members.

The ten cassette tapes resulting from the March 5-7 Los Angeles meeting are briefly described below:

1. Robert M. Gagné, "Defining Objectives for Six Varieties of Learning."

   A new method of describing instructional objectives for six varieties of intellectual skills. Distinctions are drawn between the primary and secondary verbs which are employed in writing instructional objectives and operational meanings for six primary verbs are presented.

2. Donald L. Meyer, "Non-sampling Errors in Surveys and Experiments."

   Sources of bias in surveys are discussed together with a model for incorporating assessments of errors into the final reported estimate. The listener derives an insight into the basic ingredients of Beyesiah statistical methods.

3. John R. Platt, "The Next Twenty Years of Change."

   Professor Platt observes that we are in the midst of a great world transformation, like ten Industrial Revolutions and Protestant Reformations rolled into one, and it will change education completely in the next few years. There will be early enrichment for the young, continuing education and retraining throughout the rest of life, more sophisticated grade schools and colleges, and world education of billions of children by satellite broadcasts, radio and television. Implications of these changes are examined.

4. A.A. Lumsdaine, "Some Precepts for Conduct."

   General considerations in conducting educational research are examined by Professor Lumsdaine, particularly those attitudinal bents which lead to worthwhile research endeavors.

5. Jason Millman, "Statistical Interactions: Their Nature and Importance."

   Through the use of examples taken from a wide variety of educational research settings, the nature and importance of statistical interactions is indicated. The measurement of statistical interactions and concepts affecting their interpretations are discussed.

6. Michael Scriven, "Evaluation Skills."

   A discussion of major problems faced by the evaluator and some of the very different answers favored by contemporary evaluation theorists. The problem of evaluating this cassette is used as an example (amongst others) and the author undertakes to refund its cost to the best critic each year.

7. Robert Glaser, "The Psychology of Learning and Instructional Psychology."

   Professor Glaser draws major distinctions between the phenomena of learning and specific tactics designed to accomplish instructional changes in learners. Research implications of these distinctions are considered.

8. Fred N. Kerlinger, "Multiple Regression Analysis."

   The audiotape defines and illustrates multiple regression analysis, points out its generality, power, and wide applicability in educational research, and emphasizes that it is part of a different way of thinking about research and research problems. The close relation between multiple regression and analysis of variance, especially multiple regression's ability to do all the analysis of variance can do -- and more, and its ability to handle both experimental and nonexperimental data and both continuous and categorical variables are discussed.

9. Ernst Rothkopf, "Control of Student Activity in Learning."

This tape contains discussion of the relative importance of content, structure and process variables in instructional research. Research on mathemagenic activities (e.g., study activities) is also reviewed.

10. Robert M.W. Travers, "The Limitations of Variables Derived from Common Language."

Discusses some of the problems involved in developing a scientific language for describing educational phenomena and the difficulties of using common language for this purpose.

The distribution of the tapes from their initial release until November 15, 1971, is presented in Table 1.

Table 1. Distribution of AERA Cassette Tapes May, 1971 to Mid-November, 1971.

Tape Number	Numbers Sold
1	275
2	100
3	137
4	76
5	98
6	216
7	192
8	103
9	124
10	91
Total	1,412

In Table 2 other information regarding the tape sales is presented which may be of interest to the reader.

Table 2. Distribution Information Regarding the Cassette Tapes

Number of cassettes ordered by individuals.....	656
Number of cassettes ordered by institutions.....	756
Number of cassettes ordered by members.....	624
Number of cassettes orderd by non-members.....	788
Domestic orders, number of cassettes.....	1,245
Canadian orders, number of cassettes.....	105
Other countries, number of cassettes.....	62

Sometime earlier an external evaluation had been commissioned and this was to be conducted by Professor Jerry L. Brown of Indiana University. The report of that evaluation appears as a separate section in the current document.

The informal reaction gathered by the director regarding the tapes was quite positive with one exception, namely, the recording quality of several of the tapes. Apparently our advice secured early in the project from the American Tape Duplicators technical advisors was somewhat less accurate than we had hoped. Several of the tapes, recorded at local bases, turned out to be of less than satisfactory audio quality. They were not as loud or as clear as we had hoped. In one case, one of the presenter's intermittently used the pause button on the side of the microphone (an event we had not anticipated) which left a number of small bleep sounds in the tape. Most of these were eliminated by audio-editing, but the technical quality of that tape and several of the other tapes left something to be desired.

July, 1971. It will be recalled that the decision to have only one instead of two recording sessions in Los Angeles made available additional funds. It was decided to add more audio-tapes to the series as a consequence of these resources. Accordingly, consideration was given to methods for securing additional presentations at a reasonable cost. Among other alternatives, the prospect of a meeting in November of the California Educational Research Association and of tying up new presentations with that meeting was considered. It was decided to vary the tape preparation procedures by inviting participants to make final presentations on November 19th in San Diego, concurrent with the meeting of the California Educational Research Association, having first field tested a preliminary version of their presentation on one or more learners. By doing the final recordings in San Diego under competent technical supervision, we believed we could alleviate the problem of inadequate audio quality. At the same time, there were certain appealing features in having the recorded presentations in hand when the presenters were finished, thereby avoiding the difficulties encountered with a few of the initial ten presenters, where the tapes were secured two months after the agreed upon deadline.

Two other factors entered into the plans for the recording of the final four tapes. First, we did not have as much money left, so were able to offer only a $250 honorarium to the participants along with requisite travel expenses. A second consideration, also emerging as a consequence of a relatively tight budget, suggested that people located somewhat close to Southern California be secured, thereby reducing travel expenses.

As a consequence of these considerations, a re-examination of the original list of 50 potential contributors made it possible to identify five individuals who had received a respectable number of ballots from the AERA Task Force and who were also located in California. Comparable letters of invitation were issued to these

individuals and four acceptances were secured. The individuals participating in the final recording sessions were Dr. Ned A. Flanders of the Far West Regional Educational Laboratory in Berkeley, Dr. Henry M. Levin of Stanford University, Dr. Reginald L. Jones of the University of California at Riverside, and Dr. Leonard Marascuilo of the University of California at Berkeley.

November, 1971. On Friday evening, November 19, 1971 at the California Educational Research Association two concurrent sessions were set up whereby one hour each was scheduled for participants. The initial half hour was used for the actual recording and the final half hour used for discussion with CERA participants who attended the session.

We were attempting to create an atmosphere similar to that present for the earlier series, but with a lower budget. In an effort to achieve the "communication with an unseen audience" aura, two three-panel portable screens were used to shield the presenter from the audience. In other words, the person making the presentation was located at a front table along with recording equipment, but was screened from the rest of the audience until the recording was completed. At that time the screen was removed and the half hour interaction with the audience provided an opportunity for the people attending the session to question the presenter.

All four taped presentations were transmitted to AERA central office (for subsequent release along with the initial ten tapes) within three days after they were originally recorded (safety copies having first been made to insure against the possibility of loss during mailing). A title and brief description of these cassettes is presented below:

1. Ned A. Flanders, "Instant Feedback Displays Based on Interaction Analysis."

   This presentation features a discussion on how the analysis of one's own teaching behavior provides practice in inquiry. The role of this skill in conducting research regarding teacher's behavior is described.

2. Henry M. Levin, "A Research Agenda for the Reform of Educational Finance."

   Recent court decisions and pending litigation promise to alter substantially the American system of financing education. This discussion attempts to delineate the research implications of these events for improving educational finance.

3. Leonard Marascuilo, "Recent Trends and Developments in Nonparametric Statistics."

   Recent trends in the analysis of multidimensional contingency tables and nonparametric rank analysis

of variance are explained and discussed for use in the behavioral sciences. Both planned and post hoc comparisons are discussed and evaluated.

4. Reginald L. Jones, "Research on the Education of the Mentally Retarded."

   A discussion of problems of conducting research with educable mentally retarded children. Distinctive problems encountered when carrying out experimental studies with such learners are examined.

CONCLUSION

In review, seven hours of instructional materials designed for the continuing education of educational researchers were produced as a consequence of this project. The cost of these materials was somewhat less than $2,000 per hour of instruction. In some ways, this might be considered relatively expensive material development. On the other hand, one of the reasons we chose to select high stature figures in the field of educational research was that their very participation in the training operation would be more likely to attract listeners.

To put it in another way, if an educational researcher (in need of upgrading) were given the opportunity to listen to a half hour instructional tape prepared by someone he had never heard of, and a half hour instructional tape prepared by someone of Michael Scriven's stature, we felt that many individuals might prefer to hear Scriven's personal uttered views. The chief developmental costs, therefore, were for honoraria and travel expenses for these high stature educational researchers.

As an instance of low cost development, the present project seems to have accomplished its mission.

Concerning the evaluation of the enterprise, there are two considerations. First, it might have turned out that these tapes, once they had been made available to the educational research committee, would not have been used. This kind of response would certainly have settled the question of the utility of cassette recordings with some certainty. If people don't buy the tapes, then obviously they aren't going to be of much use. With the present cassette tapes, however, it appears that this is not the case. During the almost eight month period of their availability, over 1,400 tapes were sold. There is no reason to believe that these sales will decline dramatically in the near future, given reasonable promotional efforts on the part of AERA.

The second question regarding the quality of the cassette tape enterprise must be based, however, on an evaluation of the degree to which the tapes, once used, accomplished their mission. This was the concern of Professor Brown, an external evaluator, and will be dealt with in the next section of this final report.

EVALUATOR'S REPORT

Evaluation of AERA Series B Tape Library

Jerry L. Brown
Indiana University

TABLE OF CONTENTS

TOPICS		PAGE
1.	Introduction	19
2.	Evaluation	19
3.	Evaluation Goals	20
4.	Data Limitations	21
5.	Demand	22
6.	Purchaser Characteristics	23
7.	Audience	26
8.	Effectiveness	28
9.	Format Changes	31
10.	Production Control	32
11.	Topic Preferences	33
12.	Sales Potential	34
13.	Data Summary	35
14.	Evaluator's Commentary	36
15.	Conclusion	38

TABLES AND FIGURES

TABLES

		PAGE
Table 1:	Sales by Author As of September, 1971	23
Table 2:	Respondents Primary Professional Interests	24
Table 3:	Preferred Media	25
Table 4:	Setting in Which Respondent Typically Listens to Cassette-Tapes	26
Table 5:	Number of Tapes by Author Ordered by Respondents and Percent of Tapes by Author Ordered and To Which Respondents Listened	27
Table 6:	Percent of Tapes by Author Purchased by Respondents and Duplicated or Used in Instructional Situations	28
Table 7:	Agreement With Positive Statements About the Tapes by Respondents Who Listened to Those Tapes	29
Table 8:	Agreement With Negative Statements About the Tapes by Respondents Who Listened to Those Tapes	30
Table 9:	Agreement With Statements Regarding Each Tape's Effectiveness in Instructional Settings	31
Table 10:	Percent of Respondents Who Listened To Tapes and Who Agreed With Suggested Format Changes	32
Table 11:	Evaluation of Technical Aspects of Tapes by Respondents Who Had Listened to the Tapes	33
Table 12:	Preferred Topics	34

Introduction

As the number of researchers engaging in educational research grows and as the rate of discovery of new knowledge increases, providing the educational community with updated knowledge and skills becomes increasingly difficult. One method which has been suggested as being potentially useful in disseminating knowledge and skills is using prerecorded audio-tape cassettes as a means of instruction. Prerecorded cassettes have much appeal. They are not prohibitively expensive for individuals to purchase, are easily used in a variety of situations, and are easily stored. Moreover, unlike text materials, they can be used in situations (such as when driving) when the use of visually-oriented instructional materials is not feasible.

To determine if a prerecorded library of cassette-tapes would be useful to educational researchers, ten outstanding researchers were invited to contribute to a cassette-tape library to be produced by AERA. The production of the ten tapes for this library was directed by W. James Popham (School of Education, UCLA) and financed by a grant from the Office of Education. The tapes were recorded in the spring of 1971. They are now available from AERA and may be purchased individually or in combination for $6.00 per tape, with a small discount being given purchasers who order complete sets.

Evaluation

To determine user-perception of the effectiveness of the cassette-tape library in promoting new knowledge and skills, provision was made in AERA's proposal to the Office of Education for outside evaluation of the project. The proposal called for a two-stage evaluation. The first stage was to occur approximately a month after distribution of the tapes began. The goal of this portion of the evaluation was to find out if users thought the tapes valuable. The purpose of the second stage was to ascertain if purchasers thought the tapes made any difference in the way they went about their professional work. The information-gathering activities related to this stage were to occur about six months after distribution of the tapes began. Given the original production schedule for the tapes, the first stage of the evaluation would have occurred in May, 1971, and the second stage would have occurred in October. Because of production delays it was not possible to follow this schedule and, consequently,

the evaluation outlined in AERA's proposal to the Office of Education was modified.*

The modified design had the following features. Included with each order of tapes shipped by AERA was a postcard questionnaire designed primarily to identify individual tape purchasers by name,** although it also inquired into how they learned about the cassette library and how they planned to use it. Then, in September, a formal (anonymous) questionnaire was mailed to each of the 211 individuals who, on the basis of information provided by AERA and postcard questionnaires which had been returned, could be identified as tape purchasers.***

Evaluation Goals

Although the plan by which the cassette tape library was to be evaluated changed, the primary goal of the evaluation study was that originally proposed by AERA to the Office

---

* If carried out as planned, the first stage of the evaluation would have occurred when many purchasers were vacationing and the second stage would have occurred after the project's life had expired. Given that the project's contract had been previously extended, the project was of relatively modest proportions, and that modification of the proposed evaluation design would produce few costs compared to the costs involved in securing a contract extension, a different evaluation strategy was suggested by the evaluator.

** Because individuals often order tapes through a purchasing department or library, especially when grant funds are involved, it is often difficult to identify who is ordering the tapes. The postcard questionnaires attempted to circumvent this difficulty, albeit unsuccessfully since many purchasers did not return the postcard.

*** The AERA list contained the names and addresses of 295 individuals and institutions who purchased tapes in the period between March 25th and July 19, 1971. According to information supplied by AERA 1,038 tapes were sold to these purchasers. The 211 individuals who were sent questionnaires accounted for approximately 632 tapes. As with the formal questionnaire, the response rate for the postcard questionnaire was poor. As of September, 35 postcards had been returned. If July's figure of 295 orders is used as the base, this yields a response rate of 12 percent for the postcard questionnaire. Since more than 295 orders had been received by September, the actual response rate is even lower.

of Education: To determine if tape purchasers found the cassettes useful. In addition to this primary goal, the evaluator suggested that a number of secondary questions be addressed. These questions pertained to the nature of the group purchasing the cassettes, the audience reached, suggestions for improvement of the cassettes, and support for cassette-based instruction relative to alternative methods of in-service education. Specific questions which the evaluation study addressed included these:

a. Will the cassette-tapes be purchased?

b. Who purchased the cassettes?

c. Who listened to the cassettes?

d. Are the cassettes perceived as being effective instructional devices?

e. Is the quality of production perceived as being adequate?

f. Would additional tapes be purchased if available?

As can be seen from the list above determination of the actual instructional effectiveness of the tapes is not an evaluation goal. Except for question "a" in the list above the evaluation study does not attempt to go beyond user perception of effectiveness. Nor does it attempt to go beyond user-perception of quality and adequacy of content or means of production. Readers who are interested in judgments in these areas or who are interested in considering the tradeoffs involved in deciding to produce or purchase cassette-tapes for inservice training are referred to a paper by Gene V. Glass, "A Product Evaluation of 'Evaluation Skills' Cassette Recording 6B (By Michael Scriven) -- An Instructional Tape produced by the American Educational Research Association."*

Data Limitations

An attempt was made to identify and elicit responses

---

* Thanks are due Dr. Glass for allowing me to see his paper while in draft. Readers wishing a copy of Dr. Glass' paper might best fare by writing Dr. Glass at the Laboratory of Educational Research, University of Colorado. The date on Dr. Glass' paper is July, 1971.

from all individuals who had ordered tapes between March and September. Two hundred eleven individuals were successfully identified and mailed questionnaires during September. Forty-nine individuals returned usable questionnaires, a response rate of 23 percent. These individuals, by their own reporting, accounted for 172 of the tapes sold (13 percent of all tapes sold by September). Tape by tape, they accounted for about 10-15 percent of each tape's sales (using September figures), the primary exception being for the Kerlinger tape for which they accounted for 22% of sales. Because only a small proportion of tape purchasers are represented by those who responded to the questionnaire and because responsiveness is influenced by non-random factors, the results of the survey are likely to be subject to considerable error.*

Demand

As can be seen in Table 1, by September, when the questionnaires were distributed, AERA had sold 1,349 tapes. Six hundred thirty-six (47%) of these tapes were sold directly to individuals, the remaining 736 (53%) were either sold indirectly to individuals through institutional orders or directly to institutions themselves.** Six hundred thirteen (45%) of the tapes were purchased by AERA members. Total revenue for the tapes, as of September 1, 1971, amounted to $9,676.00. Of the 10 tapes produced for the library, that by Gagné on behavioral objectives was the most popular. As of September, it accounted for 18 percent of total sales. Next in popularity was the tape on evaluation by Scriven. As can be seen in Table 1, 204 of these tapes (15%) had been sold by September. The third most popular tape as of September was that by Glaser dealing with instructional psychology. One hundred eighty-three of these tapes had been sold by September. Tapes of lesser popularity included those by Kerlinger, Lumsdaine, Millman and Travers.

---

* Because of financial and temporal restraints and because of a desire to protect the anonymity of respondents and nonrespondents, no attempt was made to determine the distinguishing characteristics of the respondents and nonrespondents, nor was any attempt at a follow-up mailing made.

** These figures were supplied by AERE and are based upon their sales records.

Of the 1,349 tapes sold by September, 636 (47%) had been sold to individuals, 611 (96%) of whom were members of AERA. Domestic orders accounted for 1,190 (88%) of all cassettes sold. Canadian orders accounted for 98 (7%) of all cassettes sold, with other foreign countries accounting for the remaining 61 cassettes (5% of the total number sold).

Table 1. Sales by Author
As Of September, 1971.

Author	No. Sold	% of Total Sales
Gagné	262	19
Glaser	183	14
Kerlinger	100	7
Lumsdaine	72	5
Meyer	96	7
Millman	94	7
Platt	132	9
Rothkopf	120	9
Scriven	204	15
Travers	86	6
	1,349	98*

Note -- Because of rounding percentages do not sum to 100%. Source: AERA

Purchaser Characteristics

Of the 49 respondents who returned the questionnaire, 47 percent indicated that they would primarily use the tapes in a college or university setting. Thirty-one percent indicated they would use the tapes within a school district.

Ten percent indicated that they would use the tapes in a regional lab or R & D center, and another ten percent indicated that they would primarily use the tapes in a private educational organization. The remaining two percent of the respondents indicated that the tapes would be used in a state department of education.

Table 2 relates to respondents professional interests. As can be seen in the table, research, development, evaluation and instruction are most frequently cited as being areas of primary interest. Diffusion/dissemination activities and management are infrequently cited areas of interest.

Table 2. Respondents
Primary Professional Interests.

What is your primary area of interest?	
Research	41 %
Development	27
Dissemination	10
Evaluation	35
Instruction	33
Management	14
Other	8
No Response	0
	168 %
	(N = 49)

Asked how they preferred to receive information, 27 percent of the respondents indicated they preferred audio tapes over the alternatives presented them. This was relatively the most popular way of receiving information. Next in popularity was journal articles and abstracts. Table 3 presents complete data in regard to this question.

Table 3. Preferred Media.

Which medium do you prefer for receiving information?	
Convention paper sessions or workshops	22 %
Video tapes	10
Films	6
Audio tapes	55
Books and manuals	20
Journal articles and abstracts	39
No Response	8
	160 % (N = 49)

Seventy-one percent of the respondents indicated that they owned their own cassette player. Twenty-seven percent did not (with two percent not responding). Data on where respondents typically listen to the tapes is presented in Table 4. As can be seen there, the office and the home are the most popular locations.* Relatively few respondents listen to tapes while commuting, while in a media center, or while in a classroom.

* The popularity of cassettes and journal articles as means of receiving information may be related to their ability to be used at the office and at home.

Table 4. Setting In Which Respondent Typically Listens to Cassette-Tapes.

Where do you usually listen to the cassettes?

At home	39 %
At the office	55
In a classroom	6
In a library or media center	14
In a car, plane, etc.	14
	128 %
	(N = 49)

*Note -- Percentages sum to more than 100% because of multiple-responding

Audience

Purchasers who responded to the questionnaire accounted for 172 tapes. That tapes were purchased, however, does not mean that they were listened to. Thus the audience for the tapes may be smaller than that which would be inferred on the basis of sales. On the other hand, the tapes could reach a larger audience than would be indicated by sales data if they were played for others besides the purchaser or if the purchaser had them duplicated.*

Of the 172 tapes purchased by those who responded to the questionnaire, respondents had listened to 105 (61 percent). The breakdown by author is given in Table 5. There it can be seen that these tapes were listened to by over 70 percent of their purchasers: Platt, Glaser and Kerlinger. Sixty-five percent of the respondents who bought the Gagné tape on behavioral objectives and learning hierarchies, the best selling tape, listened to it. Among the tapes least

* Since production of the AERA tapes was financed by the Office of Education, the tapes are in the public domain and may be legally duplicated.

listened to by their purchasers were those by Lumsdaine and Travers.* Only about a third of the respondents who had purchased these tapes listened to them.

Table 5. Number of Tapes By Author Ordered By Respondents and Percent of Tapes By Author Ordered and To Which Respondents Listened

Tape (By Author)	No. Ordered by Respondents	% Listened To
Gagné	31	65%
Glaser	23	74
Kerlinger	22	73
* Lumsdaine	9	33
Meyer	13	54
Millman	13	62
Platt	13	77
Rothkopf	11	55
Scriven	24	54
Travers	13	39
Total	172	61%

* Note -- The Lumsdaine tape was released later than the others.

Seven (4%) of the AERA tapes were duplicated (or were going to be duplicated) by the respondents. Twenty (12%) of the tapes were played for students of the respondents. The breakdown on these by tape is presented in Table 6.

Table 6. Percent of Tapes By Author Purchased By Respondents and Duplicated Or Used in Instructional Situations.

Author	% Duplicated	% Used in Instructional Situations	N
Gagné	9%	16%	31
Glaser	9	17	23
Kerlinger	-	14	22
Lumsdaine	-	11	9
Meyer	-	8	13
Millman	-	15	13
Platt	8	-	13
Rothkopf	-	18	11
Scriven	4	4	24
Travers	-	8	13
Total	4%	12%	172

Effectiveness

The purpose for developing the tape library was to provide professional educators with an interesting and effective means of improving their professional skills. The questionnaire contained a number of items which attempted to assess the respondents attitude regarding the ability of the tapes to reach this goal. Respondents were asked to consider the interest-maintaining quality of the presentation, the adequacy of the content covered, the instructional effectiveness of the presentation, and the presentation's ability to stimulate further inquiry. Respondents who used the tapes in instructional situations were also asked to evaluate the tapes effectiveness in regard to perceived impact on their students.

Table 7 presents data on responses to positive statements about each tape. In Table 8 the reaction of respondents to negative statements about the tapes is shown. As can be seen by comparing the tables, respondents were more positive about the tapes than negative. All but four tapes were considered as having interesting presentations by 50% or more of their listeners. The exceptions were the tapes by Glaser, Lumsdaine, Platt and Scriven. Six tapes, those by Kerlinger, Lumsdaine, Meyer, Millman, Rothkopf and Scriven, were reported to have increased understanding of the topic covered by 50% or more of their listeners. One tape was reported as having motivated further study by 50% or more of its listeners. This was the tape by Lumsdaine. Approximately a third of the listeners for the Gagné, Glaser and Kerlinger tapes reported that further study of the topic was motivated by the tape.

Table 7. Agreement With Positive Statements About the Tapes by Respondents Who Listened to Those Tapes.

Author	Presentation Interesting	Content and Coverage Adequate	Increased Understanding	Motivated Further Study	N
Gagné	60%	85%	45%	40%	20
Glaser	35	71	47	35	17
Kerlinger	69	63	50	38	16
Lumsdaine	33	67	67	67	3
Meyer	57	57	71	14	7
Millman	63	25	50	13	8
Platt	30	40	20	20	10
Rothkopf	67	67	67	17	6
Scriven	62	46	54	8	13
Travers	20	60	20	-	5

Table 8. Agreement With Negative Statements about the Tapes by Respondents Who Listened to Those Tapes

Author	Not Informative	Lacked Clarity	Would Not Recommend Tape Be Purchased	N
Gagné	-%	5%	15%	20
Glaser	12	-	18	17
Kerlinger	-	-	6	16
Lumsdaine	-	-	33	3
Meyer	-	-	14	7
Millman	13	-	13	8
Platt	50	10	50	10
Rothkopf	-	-	17	6
Scriven	15	8	23	13
Travers	20	-	40	5

As to tapes which would not be recommended for purchase by their listeners, three, those by Lumsdaine, Platt and Travers, were the only tapes to have a third or more of their listeners indicate that they would not recommend purchasing the tape. About 20 percent of those who listened to the Scriven tape indicated that they would not recommend that the tape be purchased. For the Gagné, Glaser and Rothkopf tapes, between 15-19% of their listeners indicated they would not recommend the tape be purchased. Between 9-14% of those who listened to the Meyer and Millman tapes indicated they would not recommend them. Six percent of those who listened to the Kerlinger tape indicated that they would not recommend its purchase.

Respondents who used the tapes in instructional situations were asked to subjectively evaluate the effect the tapes had on their students. They indicated that of the 20 tapes

played, 18 (90%) seemed to effectively increase student understanding. Seventeen (85%) provoked student initiated discussion, and nine (45%) stimulated further independent or group study of the topic discussed. Respondents indicated that they planned to incorporate each of the 20 tapes played into their regular instruction, although evaluation instruments had been developed by the respondents for only four of the 20 tapes. The breakdown of these responses by tape is presented in Table 9.

Table 9. Agreement With Statements Regarding Each Tape's Effectiveness in Instructional Settings.

Author	Increased Student Understanding	Provoked Discussion	Stimulated Further Study	Plan To Use Regularly	N
Gagné	100%	100%	80%	100%	5
Glaser	100	100	50	100	4
Kerlinger	67	67	-	67	3
Lumsdaine	100	100	-	100	1
Meyer	100	-	-	100	1
Millman	50	100	50	50	2
Platt	-	-	-	-	0
Rothkopf	100	50	50	100	2
Scriven	100	100	-	-	1
Travers	100	100	100	100	1

Format Changes

Audio-tapes are one possible means of communicating information to professional educators. Depending upon the

audience being targeted and the information attempting to be transmitted they may be appropriate or inappropriate to the task, sufficient or insufficient. Tape listeners were asked to evaluate the tapes in regard to these factors: (a) Would a printed format have been more useful than a taped format? (b) Should supplementary materials such as a workbook be included with the tapes? (c) Should a transcript have accompanied the tapes? Responses to these questions are summarized in Table 10.

Table 10. Percent of Respondents Who Listened to Tapes and Who Agreed with Suggested Format Changes.

Printed Format	Include Supplementary Material	Include Transcript
14% (n = 105)	9% (n = 105)	28% (n = 105)

As can be seen in the table, 14% of the respondents who listened to the tapes indicated that a printed format would have been more useful. Nine percent of the respondents thought supplementary materials should have been included.* Twenty-eight percent thought a transcript should have been included.

Production Control

Purchasers who listened to the tapes were asked to rate the quality of production in regard to the need for professional narration, need for editing, and overall technical quality. As can be seen from the data in Table 11, technical problems were not an issue for most listeners, with only six percent indicating it was needed. A third of those listening to the Scriven tape, however, did feel that the tape, which was interrupted by a series of "stop/starts", had technical qualities which detracted from the substance of the

* Purchasers who had listened to the Millman tape comprised about half of the persons who wanted supplementary materials. Listeners to the Gagné, Kerlinger and Meyer tapes accounted for the remaining few tapes.

presentation. Professional narration and editing was indicated as being required in only a few cases, the most notable being the Travers tape (20% of its listeners indicated it needed professional narration and 40% indicated it needed professional editing).*

Table 11. Evaluation of Technical Aspects of Tapes by Respondents Who Had Listened to the Tapes.

Author	Technical Quality Detracted From Substance	Professional Narration Needed	Editing Needed	N
Gagné	10%	10%	15%	20
Glaser	12	6	12	17
Kerlinger	6	-	6	16
Lumsdaine	-	-	-	3
Meyer	14	14	14	7
Millman	13	13	13	8
Platt	0	10	0	10
Rothkopf	0	0	-	6
Scriven	31	-	8	13
Travers	20	20	40	5

Topic Preference

Tape purchasers were asked to select from a group of topics those they would most like to see presented on audio

---

* Six percent of the listeners agreed that professional narration was needed and 10% agreed that professional editing was needed.

tapes. Response data is presented in Table 12. As can be seen in the table the summaries of current research findings is the topic most respondents would prefer to have presented on tape. Close to this in popularity is discussions between prominent advocates with different points of view. "How-to-do-its" and discussions of "hot" issues are next in popularity. Discussions of recent funding, laws and politices is the least popular of the alternatives.

Table 12. Preferred Topics.

Which of the topics would you most like to see presented on audio tapes?	
"How-to-do-its" (demonstrations of technique)	37 %
Dialogues between prominent advocates with different points of view	49
Discussion of current "hot" issues	37
Summaries of current research findings	55
Discussions of recent findings, law, and policy	20
No Response	4
	198 %
	(N = 49)

Sales Potential

Related to the discussion above, tape purchasers were asked if they would be willing to purchase audio-tapes again. Approximately 89% of the respondents answered "Yes", they would (the remainder said "No", with no nonrespondents). As to whether they'd be willing to pay $30-$45 for a six month trial subscription for a cassette-based "journal" of education, about 35 percent indicated that they would be willing. Another 37 percent indicated that they were unsure and the remaining 29 percent said they wouldn't.

Data Summary

As of September, 1971, AERA sold 1,349 tapes. Forty-seven percent of these were sold directly to individuals. The rest were sold either indirectly to individuals or directly to institutions. Of the ten tapes, that by Gagné was the most popular, having sold 204 copies (18% of sales) by September. Tapes by Scriven and Glaser were next in popularity.

To determine user reaction to the tapes, an anonymous questionnaire was mailed to 211 individuals who could be identified as tape purchasers as of September. Usable questionnaires were returned by 49 individuals. These individuals accounted for 13% of the tapes which had been sold at that time. With the exception of the Kerlinger tape, of whose sales respondents accounted for about 22%, respondents accounted for 10-15% of sales for each tape in the series.

Respondents indicated they would use the tapes primarily in a college or university setting. Most indicated that research was their area of primary interest with evaluation and instruction also being areas of primary concern. Presented with alternative ways of receiving new information and skills more respondents preferred audio-tapes than any other means. Next in preference were journal articles and abstracts. The office and home were typically used for listening to the tapes, with relatively few respondents listening to the tapes while commuting or while in a "public" setting such as a media center or classroom.

Purchasers tended to listen to the tapes they bought, listening to 61% of the tapes purchased. Only two tapes, that by Lumsdaine (which was released later than the other tapes) and that by Travers, had less than 50% of their purchasers listen to them. Respondents who listened to the tapes responded in greater proportion to positive statements about the tapes than to negative statements about the tapes. In general respondents indicated that the tapes increased their understanding of the topic discussed, although relatively few were stimulated to further inquiry. Professional narration or editing was indicated as being needed by only a small percentage of the tape listeners. Only for the Scriven tape did a sizable proportion of listeners (about 20%) feel that technical quality detracted from the substance of the presentation. Format changes, such as using a printed format for conveying information rather than audio-cassettes, were supported by only a small percentage of the listeners. About a third, however, did indicate that the inclusion of a transcript would be useful.

As to topics respondents wanted to have presented on tape, summaries of current research findings, debates and discussions of current "hot" issues were the three choices most favored by respondents.

Evaluator's Commentary

The data presented above are the result of a rather unsophisticated effort to ascertain user-reaction to the cassettes in the AERA Series B library. This library was developed to test the viability of using cassette-tapes to transmit knowledge and skills to educators primarily engaged in educational research. If sales are used as the criterion for success, then the project must be judged as relatively successful. Similarly if response data from purchasers replying to the questionnaire is used, the project succeeded in meeting its goals. Purchasers were primarily interested in research, so the proper target audience was reached. Moreover, they found that the tapes increased their understanding of the topics presented and, in a few cases, motivated further study.

Unfortunately because the tape purchasers were reluctant to complete and return the questionnaire that was mailed them, it is difficult to determine whether or not the sales' data or the respondents' responses are valid indicators of AERA's success in meeting its goals. The issue is further complicated since no attempt was made to determine the actual instructional effect of the ten tapes in the series. Financial restraints, among other things, prevented this. Similarly technical aspects pertaining to the content presented and the quality and means of presentation were not evaluated.

It nevertheless appears that audio-tape cassettes are a viable way of making researchers aware of new trends in educational research and evaluation. It would seem, however, that if more than awareness were desired, then changes in format would be necessary. Take, for example, the tape by Gagne. This tape is probably the most skill-oriented of the tapes in the library. Its objective appears to be to teach the listener to write behavioral objectives that are indicative of the hierarchical level to which they relate. This is a complex task that requires the learner to be able to write behavioral objectives, to be able to identify the levels in a Gagne hierarchy and associate each level with a codeword provided by Gagne, and to write a behavioral objective

that indicates, through use of the code word, the level of the hierarchy to which it relates. A complex task such as this typically can't be achieved through listening. Unless the learner possesses a high degree of previous knowledge about each of the subordinate tasks, he must do more than learn the code words. He must learn how to do all the other tasks as well (and the subordinates that they entail). For this, the learner needs practice both on individual components taken separately and in combination. Practice such as this necessitates that the tape be restructured into a semi-programmed format or that an adjunct program, such as a wookbook be included.*

Since, however, most respondents indicated that they preferred tapes oriented toward "awareness", a workbook or active response program is not required. Simply listening to the tape or reading a transcript is sufficient. That only ten percent of the respondents who listened to the Gagne tape felt the need for a workbook, suggests that most either had a high level of previous knowledge or were not interested in moving beyond the awareness stage. That so few of the listeners sought out other references as a result of listening to the tape, suggests that they were oriented towards awareness rather than skills. This might explain more respondents wanting (additional) tapes summarizing current research findings than wanting tapes dealing with tec nique.

If awareness is all that is required, then a different marketing strategy might be employed to increase the size of the audience being reached. Tapes are an expensive means of promoting awareness compared to printed materials. Yet they were favored by questionnaire respondents. Offering an option to those desirous of becoming informed about new trends seems sensible. Those who wish less expensive materials or who don't enjoy receiving information via cassette should also be given the opportunity to come into contact with the thinking of outstanding men in the field, something not possible the way the Series B library was offered for sale. This could be done by offering researchers the opportunity to purchase typescript versions of the presentations contained on the cassettes. Since almost 30 percent of the respondents indicated that a transcript should have accompanied the tapes,

---

* This assumes that a tape is to remain the primary vehicle for communicating with the learner.

it would also allow tape purchasers who desire a transcript to have the opportunity of buying both taped and printed versions of the same material. This would probably increase the number of people reached by the library since purchasers would be able to easily and inexpensively duplicate the typescripts (as by Xerox) and distribute them to colleagues and students. It would therefore seem desirable for AERA to offer the library in both cassette and print and, to encourage the widest possible distribution, to provide a small discount to those who purchase the library in both forms.

Conclusion

Using audio-tape cassettes to make educational researchers aware of new trends in educational research seems to be a viable concept. Tapes were purchased and found useful by their users. Most indicated that they would purchase tapes again. There is some question, however, of the effectiveness of using cassettes without supporting materials if non-awareness objectives, especially those relating to skill performance, are to be attained Assuming awareness is the primary goal for purchasers, then providing the purchaser with the opportunity to buy inexpensive printed versions of the presentations contained in the library (either as a substitute for the cassette or in addition to it)would seem to be an effective means for reaching the largest possible audience.

APPENDIX

December 10, 1971

Dr. Michael Scriven
233 Moses Hall
University of California
Berkeley, California

Dear Michael:

During the past summer the American Educational Research Association received a U.S.O.E. grant to assemble a library of half hour cassette tapes dealing with recent advances in the strategies and tactics of educational research. Ten prominent individuals were to be identified who could prepare a recording which would improve the skills of practicing educational researchers. AERA is anxious to test the viability of this approach to providing continuting education for the educational research community and will distribute the tapes after they are prepared.

As director of the project I have been in frequent consultation with the AERA Task Force on the Training of Educational Researchers whose members agreed to aid in the selection of the initial ten contributors to the tape library. After several rounds of suggestions, straw ballots, and actual voting, I hope you will consider it a deserved indication of your colleagues' support that your name was selected.

I hope you will be willing to participate in this project and in order for you to make a decision will briefly outline specifics of a contributor's involvement.

You would prepare a 30 minute presentation designed primarily for the practicing educational researchers (although such tapes would undoubtedly aid prospective researchers as well), the purpose of which would be to provide or upgrade one or more research-related competencies of the listener. In addition, you would identify several references for follow-up reading, indicating the role of each with a one or two sentence annotation. At a three day conference late this year or early next year in Los Angeles, along with the other nine contributors, you would record your remarks at the same time they are being heard by an unseen audience of

(cont'd)

50 or so educational researchers in a different room. You would only need to attend the conference for one half day, although you would be welcome to stay for the whole session. After your presentation, you would go to the other room where those who had listened to your remarks would (1) offer suggestions for research and (2) discuss the substantive aspects of the presentation (which might also yield ideas for modifications). You would be given a loaner cassette recorder, return to your home with your original recording and within several weeks would record a revised presentation at your home (office, etc.). This would be the tape to be included in the AERA library.

For this contribution you will receive a $500 honorarium and all expenses for the conference. The tape will become the property of AERA, under whatever arrangements regarding copyright are in effect by U.S.O.E. at that time.

We believe that if the tapes are well received by the educational research community, the cassette library approach will be a useful way to improve our colleagues' skills. Obviously, I hope you will wish to be a charter contributor to the series.

Will you please write me as soon as possible indicating whether you will participate in the project. We'll need to get an alternate if you decline. If you accept this invitation, please list a phone number so that by mail or telephone I can reach you to discuss a topic and date when you might be free to make your first recording.

Sincerely,

W. James Popham

WJP/bg

APPENDIX

Postcard Questionnaire

Re: AERA Cassette Tape Series - "Perspectives on Recent Research."

Thank you for your purchase of tapes from the series. To help us better evaluate this new service, we would appreciate your completing the card and returning it to AERA. (N postage is necessary).

Name _____ Position _____

Place of employment _____

AERA Member Yes No

CHECK TAPES ALREADY ORDERED

_____	1B	Gagné	_____	4B	Lumadaine	_____	7B Glaser
_____	2B	Meyer	_____	5B	Millman	_____	8B Kerlinger
_____	3B	Platt	_____	6B	Scriven	_____	9B Rothkopf
						_____	10B Travers

Reason for purchase?
Personal use ☐ Class instruction ☐ Library ☐ Other ☐

Information source
Colleague(s) ☐ AERA Flyer ☐ Educational Researcher ☐ Other ☐

american educational
research association

Thank you for recently purchasing some of the cassettes from the AERA Audio-Tape Series, New Trends in Educational Research.

AERA is interested in improving the quality of its cassette-tape library to make it more useful to you, and others like yourself in the field. The purpose of this questionnaire, which we hope you'll be kind enough to complete, is to seek your reaction to the cassettes and to solicit your recommendations for improving the cassette-tape library.

Please complete the questionnaire and then return it in the envelope provided. No postage is required. Although the questionnaires are coded this is only for bookkeeping purposes. As you might expect, anonymity of responses is guaranteed.

1126 SIXTEENTH STREET, N.W. • WASHINGTON, D. C. 20036 • 202/223-9485

Directions

In the left hand column is a series of questions, statements or phrases pertaining to the cassette tapes in AERA Series B. Each tape in the series, identified by author, is listed in one of the columns at the right. If a statement applies to one or more of the cassettes indicate to which cassette it applies by placing a check mark (✓) in the column associated with that cassette. Answer for as many cassettes as you wish, but do not answer for those cassettes which you have not purchased or monitored.

TAPES

	GAGNÉ	GLASER	KERLINGER	LUMSDAINE	MEYER	MILLMAN	PLATT	ROTHKOPF	SCRIVEN	TRAVERS
1. Which tapes did you purchase?										
2. Why did you purchase each of the titles you did?										
a) Speaker's reputation										
b) Interest in topic										
c) Other _____ (what)										
3. Which of the tapes have you listened to since receiving your order?										
4. Which of the tapes have you duplicated (or plan to duplicate)?										
5. Which of the tapes do you plan to use in a classroom for instructional purposes?										
Part II										
If you haven't listened to any of the tapes please go to Part III. For those tapes to which you have listened, please decide whether or not the statement in the left column applies. If it does, place a check mark (✓) in the appropriate box.										
6. Professional narration needed										
7. Poor technical quality detracted from substance										
8. Interesting presentation										
9. Not very informative										

TAPES

	GAGNE	GLASER	KERLINGER	LUMSDAINE	MEYER	MILLMAN	PLATT	ROTHKOFF	SCRIVEN	TRAVERS	
10. Content and coverage are adequate											
11. Discussion lacked clarity											
12. Editing needed											
13. A printed format would have been more useful											
14. A transcript should have accompanied this tape											
15. Wouldn't recommend this tape be purchased											
16. Played this tape for a colleague											
17. As a result of listening to the tape, read one or more of the books, papers (etc.) cited											
18. Increased my understanding of the topic presented											
19. Motivated further study of the topic											
20. Supplementary instructional materials (e.g. a workbook) should be included											

Part III

If you have not used any of the cassettes in Series B for instructional purposes go directly to Part IV. Otherwise, please answer the questions below by putting a check mark (✓) in the box or boxes corresponding to the tape(s) to which the statement applies.

21. Which tapes did you play for your students											

TAPES

	GAGNE	GLASER	KERLINGER	LUMSDAINE	MEYER	MILLMAN	PLATT	ROTHKOFF	SCRIVEN	TRAVERS
22. Which tapes seemed to effectively increase your students' understanding of the topics presented?										
23. Which tapes provoked student initiated discussion?										
24. Which tapes stimulated further independent or group study of the topic presented?										
25. Which of the tapes do you plan to incorporate as a regular feature of your instruction?										
26. For which tapes did you develop an evaluation instrument?										

(continued)

Part IV

Please answer the questions below:

27. Where will the tapes primarily be used?

____a) In a college or university.
____b) In a regional lab or R&D center.
____c) In a State Department of Education.
____d) In a school district.
____e) In a private education-oriented organization.

28. How will the tapes typically be used?

____a) For the purchaser's personal instruction.
____b) For use in pre- or inservice teacher training programs.
____c) For use in graduate Research, Development, Dissemination or Evaluation courses.
____d) For use in undergraduate RDD&E courses.
____e) For reference in a library or media center.

29. Where do you usually listen to the cassettes?

____a) At home.
____b) At the office.
____c) In a classroom.
____d) In a library or media center.
____e) In a car, bus, plane, etc.

30. Do you have your own personal cassette tape recorder or player?

_____ yes
_____ no

31. What specific topics would you like to have presented on tape which aren't currently available? _____
_____.

32. What is your primary area of interest?

____a) Research
____b) Development
____c) Dissemination
____d) Evaluation
____e) Instruction
____f) Management
____g) Other _____
(what)

33. Which of the topics below would you most like to see presented on audio tapes?

____a) "How-to-do-its" (demonstrations of technique)
____b) Dialogues between prominent advocates with different points of view.
____c) Discussion of current "hot" issues.
____d) Summaries of current research findings.
____e) Discussions of recent funding, law, and policy.

34. Which medium do you prefer for receiving information?

____a) Convention paper sessions or workshops.
____b) Video tapes.
____c) Films.
____d) Audio tapes.
____e) Books and manuals.
____f) Journal articles and abstracts.

35. Would you purchase audio-tapes again?

_____ yes
_____ no
_____ Don't know

36. Would you consider paying $30-$45 for a six month-tape trial subscription for a cassette-based "journal" of education in an area of interest?

_____ yes
_____ no
_____ Don't know
If yes, what area? _____

37. How would you rate the speed with which your order was processed by AERA?

____a) Excellent
____b) Satisfactory
____c) Unsatisfactory

Thank you for your cooperation. Please place this questionnaire in the stamped, self-addressed envelope provided and mail to - Tape Evaluation
c/o Lab for Educational Development
North Cottage Grove 201-B
Bloomington, Indiana 47401